

SITUATION REPORT NO. 14
INCIDENT NO. 99-009
DATE: May 18, 1999 TIME: 3:00 p.m.

TO: Governor Edward T. Schafer
State Capitol
Bismarck, ND 58505

1. NATURE OF DISASTER: Spring flooding – Above normal soil moisture content throughout North Dakota, compounded by seven years of flooding, has resulted in overland and river flooding.
2. DEATHS AND INJURIES: No change from previous reports.
3. DAMAGES: Precipitation that has occurred since May 1 has prompted the National Weather Service (NWS) to upgrade its forecast for Devils Lake. A revised forecast issued May 14 calls for the lake to reach 1,447.5 to 1,448 feet by late June or early August, a one half-foot increase over earlier forecasts. The forecast is based on normal precipitation and evaporation taking place through July. During the first two weeks of May, precipitation exceeded two inches over most of the Devils Lake Basin. More than three inches of rain fell over the northern and western portions of the basin, with the heaviest precipitation occurring over the northern portion of the Mauvais Coulee. Precipitation in this area is likely to exceed four inches during the first two weeks of May. The present level of the lake measures 1,446.6 feet, the natural spill elevation between Devils Lake and Stump Lake. Water has begun to move from East Devils Lake to Stump Lake. The water is ponding east of Devils Lake and has not yet started to flow into Stump Lake. Only limited flow rates between the two lakes are expected at elevations below 1,448 feet; these rates are not expected to have a significant effect on the projected peak level for the lake.

The NWS provided the following observed elevations for Devils Lake:

Year	Lake Level
1830	1,441 feet (approximated)
1867	1,438.4 feet (daily records began this year)
1940	1,400.87 feet
1993 (January)	1,422.5 feet
1993 (September)	1,428 feet
1994 (summer peak)	1,430.5 feet
1995 (summer peak)	1,435.97 feet
1996 (summer peak)	1,437.8 feet
1997 (summer peak)	1,443 feet
1998 (summer peak)	1,444.7 feet

Bismarck has recorded the second wettest May on record thus far, according to the NWS. As of May 17, approximately 6.26 inches of rain had fallen this month. The wettest May occurred in 1927 when 7.04 inches of rain fell in the area. Other cities, total precipitation to date for May and

averages are as follows: Minot, 5.89 inches, 1.19 inches; Jamestown, 5.87 inches, 0.90 inches; Dickinson, 3.56 inches, 1.29 inches; Grand Forks, 7.58 inches, 4.46 inches; and Fargo, 3.42 inches, 1.19 inches.

Because of continued flood-related problems, Stutsman County officials have found that that rainfall thus far in May has managed to saturate soils compared to the 25 inches of rain received in July 1993. Strong winds that have accompanied rainstorms have caused severe erosion to both county and township roads where standing water is either along roadways or has overtopped them. The Omaha District of the U.S. Army Corps of Engineers (USACE) reported that the road leading to Pipestem Dam has been severely damaged because of water-related problems. The community of Eldridge, which is located in a low marshy area with no defined drainage system, has become saturated to the point where the community cannot drain excess water. Homes are surrounded with water, and some access roads are inundated. The grain elevator is virtually shut down because of water in the pit and tunnels that connect the grain bins. As of May 13, the Stutsman County emergency manager has received 68 reports of damages to businesses and homes. While most individuals reported excessive seepage that is damaging carpeting, flooring, walls and furniture, others have had problems with contaminated wells, failed septic systems and water-damaged water heaters and furnaces.

In Ransom County, up to five inches of rain has fallen since May 1 in areas where the water table is one foot below the surface. Excessive rainfall during the past seven years has caused ground water tables to rise.

Two Dickey County farms are isolated by long stretches of inundated roads. In an effort to assist one of the farm families, the county has allowed a utility company to place poles on the highway right-of-way. The city of Ludden continues to experience septic system problems. Oakes has in place restrictions on water use.

Grand Forks County officials reported that high water tables have damaged 75 homes. Scope of damages ranges from wet carpet to buckled basement floor to potentially weakened, deteriorating walls. The majority of damage has occurred in the Northwood, south Grand Forks, Larimore and Marvel areas.

As with other flood-impacted counties, recent rainfalls of three to four inches in Walsh County have saturated soils, contributed to increases in ground water levels and flows in rivers and drainage channels. County Road 2 has been closed because of flood waters for the second time this year. The road is closed near where the Forest River crosses the Red River. Most of County Road 2 is passable only with four-wheel-drive vehicles. The sewer system for the city of Pisek has backed up into a few homes, and lift stations are unable to keep up with the demands on the system. Officials are trying to determine if ground water is infiltrating the system. One rural Tiber Township resident has been hauling bottled water after experiencing well problems. In the city of Lankin, gravel roads are saturated and nearly impassible.

Statewide, farmers have experienced serious delays in spring planting.

4. RESOURCES:

LOCAL: No change from previous reports.

STATE: No change from previous reports.

FEDERAL: No change from previous reports.

5. VOLUNTEER ACTION: The American Red Cross has ordered 1,775 cleanup kits, 500 of which will go to the Minot area, 525 to the Fargo-Moorhead area and 750 to the Grand Forks area. The kits designated for the Minot area include Rolette County, and the kits

designated for Grand Forks will be distributed to residents in the cities of Grand Forks, Northwood, Larimore and Hatton. Kits designated for the Fargo area will be given to homeowners in Traill County and others in the southeast portion of the state.

The Red Cross has been providing temporary lodging in Grand Forks for families in the Belcourt area. The Red Cross is also assisting a family in the Jamestown area.

6. **MAJOR ACTIONS:** Preliminary damage assessment teams, comprised of state, local and federal inspectors began field work on May 18 after an orientation session on May 17. The inspectors will work with 27 counties, two Indian reservations and several state agencies. The reservations include Spirit Lake Tribe and the Turtle Mountain Band of Chippewa Indians. The counties include: Barnes, Benson, Bottineau, Dickey, Grand Forks, Griggs, Kidder, LaMoure, Logan, McHenry, McIntosh, McLean, Mountrail, Nelson, Pembina, Pierce, Ramsey, Ransom, Renville, Rolette, Sheridan, Steele, Stutsman, Towner, Traill, Walsh and Wells.

North Dakota Emergency Management and the Federal Emergency Management Agency (FEMA) have established a Joint Information Center to address media concerns regarding the preliminary damage assessment process. The phone is (701) 224-5259.

N.D. State Aeronautics Commission provided an aircraft for lake surveillance for officials of N.D. Emergency Management, N.D. State Water Commission (SWC) and Indian Affairs Commission.

The Governor, his staff and state officials representing the SWC, N.D. Emergency Management, N.D. Department of Transportation, N.D. Department of Health and Indian Affairs Commission met with tribal officials and tribal members at Spirit Lake on May 13 to discuss Devils Lake flooding.

Also on May 13, the Governor conducted a public meeting in Devils Lake to discuss emergency response alternatives for Devils Lake flooding.

Since the last Situation Report, officials for Griggs and McLean Counties have issued disaster declarations. Emergency declarations were issued by officials in the cities of Velva and Upham in McHenry County. A disaster declaration has been issued by city officials of Pingree in Stutsman County.

In preparation for the Red River crest at Grand Forks, crews installed sluice gates and manhole risers at 40 feet. Pumps were placed at critical low manholes, and a dike closure at Lewis Boulevard in Riverside Park was sandbagged.

A State Flood Coordination Center meeting was held in Devils Lake on May 13, 1999. Following a summary of key issues discussed during this meeting.

N.D. State Water Commission (SWC)

The SWC presented and discussed 17 emergency response alternatives as summarized below:

Alternative Number	Plan	Estimated Construction Cost
1	Upper Basin Storage by Closing all Field Drains	\$19.8 million
2	Large Upper Basin Storage Sites	\$2 million
3	Buyout, Protection, Relocation, Abandonment of Property and Infrastructure	\$300 million
4	Gravity Flow Channel from the Mauvais Coulee to the Sheyenne River	\$230 million

Alternative Number	Plan	Estimated Construction Cost
5	U.S. Army Corps of Engineers (USACE) Pumped Outlet Option A -- Gravity flow line from the Pelican Lake area to a Pumping station near N.D. Highway and U.S. Highway 281 Option B --Pipeline pumping plant east of U.S. Highway 281 near Round Lake and a pipeline to the control reservoir	\$111 million \$68 million
6	Twin Lakes Outlet Using Gator Pumps and Open Channel	\$12. 8 million
7	Twin Lakes Outlet with 3 Dams and 3 Pumps	\$5.9 to \$6.3 million
8	Discharge to James River via New Rockford Canal	\$143.5 million
9	Discharge to Missouri River via Garrison Diversion Features	No estimate other than "very large"
10	Tunnel from near Fort Totten to the Sheyenne River	\$72 million
11	Utilize Stump Lake Storage	\$10 million
12	West Gravity Flow Channel from Stump Lake to the Sheyenne River	\$4 million
13	South Gravity Flow Channel from Stump Lake to the Sheyenne River	\$8 million
14	Channel from East Devils Lake to Tolna Coulee	\$17 million
15	Channel from East Devils Lake to Stump Lake and Channel from East Devils Lake to Tolna Coulee	\$35 million
16	Treatment of Stump Lake Water	\$211-plus mission
17	Trucking Water	N/A (Estimated annual operations costs -- \$82 million)

North Dakota Department of Transportation (N.D. DOT)

Current activity by the Devils Lake District of the N.D. DOT centers primarily on preserving existing lake crossings and keeping them safe for public travel.

Immediately after ice melted in Devils Lake, wave damage to highway shoulders began to appear. Most of the damage is located near the junction of U.S. Highway 281 and N.D. Highway 19. Two contracts are currently active to raise the rip-rap protection on lake crossings, and a third contract will be let next week.

The contractor for the N.D. Highway 57 Narrows crossing project has begun construction on the

new bridge. It is anticipated that this work will be completed in July.

N.D. DOT staff members are currently designing a grade raise project for N.D. Highway 57, from near the Spirit Lake Casino to the Ski Jump Road intersection. This project will be let within the next two months.

Water has risen to the roadway surface at the Stump Lake crossing on U.S. Highway 2, just east of its junction with U.S. Highway 281. N.D. DOT maintenance forces have just completed an emergency grade raise to keep U.S. Highway 2 dry. Future plans for the road may include a permanent grade raise. Residents and officials are concerned that debris from Stump Lake may be deposited on N.D. Highway 1. The road is at 1,411.29 feet and the lake is approximately 1,408.5 feet.

Debris deposition is becoming a growing problem at all of the lake crossings in the Devils Lake area.

N.D. DOT officials are studying various options for maintaining the state highway network in the Devils Lake area, assuming that the lake continues to rise.

Water is presently beginning to flow toward Stump Lake. N.D. Highway 1 currently has about 5.3 feet of freeboard above the water surface. If Devils Lake begins to flow into Stump Lake at any significant rate, it will be necessary to close the current crossing and relocate the highway to the east. Preliminary design work is being done in preparation for this possible relocation.

Heavy rains in the Belcourt area have caused very serious highway problems in that area. N.D. DOT is presently working with contractors to repair some of the damage due to the wet weather and return highways to some level of reasonable condition for travel.

N.D. Parks and Recreation Department, Devils Lake Area State Parks

Current 1999 flood losses in Devils Lake Area State Parks are as follows:

Shelvers Grove: The day-use area entrance road has flooded, and vehicle access to the day-use area and picnic shelter has been closed. A lake elevation of 1,447 feet will flood the campground storm drain system and will allow water to remain in the interior of the campground. Sections of the campground road are at 1,448.5 feet and problems may occur on windy days. The campground entrance road will require placement of rip-rap to protect vehicle access to the campground.

Grahams Island: The primary electric service for the campground area is threatened by the high lake level. Estimated loss of the electrical service is \$30,000. This system provides service to the campground comfort station. The septic system for the assistant manager's residence has failed. Park staff will be pumping the septic system and transporting the effluent to the park's wastewater treatment ponds. Five primitive campsites and three modern campsites are currently flooded. Several sections of the park's interior roads are experiencing erosion and will require rip-rap protection.

Black Tiger Bay: The elevation of the boat ramp is 1,448 feet. The current lake level is causing serious erosion problems in the parking and boat access area. Facilities in this area are being protected to lake level of 1,448.5 feet. A contractor placed rip-rap and additional gravel in the area. The parking area, which has flooded, will have to be raised. Estimated repair costs total \$15,000, and are funded through the N.D. Game and Fish Department.

North Central Planning Council (NCPC)

NCPC continues to participate with state and federal agencies in programs for diking of public and private property and protection measures for utilities infrastructure.

N.D. National Guard

Severe erosion has been occurring along the shoreline at Camp Gilbert C. Grafton, which parallels one of the camp's main paved roads. This erosion not only threatens the street, but water, sewer,

power, telephone and possibly some structures.

Camp personnel have been undertaking an emergency rip-rap project for the worst areas in an effort to protect the bank until a permanent solution is developed. This work will take place very soon and is expected to cost as much as \$100,000. Camp staff members are developing and designing a permanent shoreline protection project that may be started this summer. The cost of this project is expected to be considerably higher than the temporary work.

Camp workers recently completed rip-rapping to protect a private residence located on camp. The structure was not directly threatened, but a retaining wall was being eroded.

Camp staff is concerned about maintaining access to Camp Grafton on N.D. Highway 20 if the highway is closed on windy days. Other routes to camp are very limited and will be a problem, as they have been in the past.

N.D. Game and Fish Department

The staff at N.D. Game and Fish Department, Devils Lake, provided the following update to boat access work:

East Bay - When the parking area dries up, rip-rap will be placed, and the area will be raised about two feet. The work should be completed within a two-week period, weather permitting.

Black Tiger Bay - The ramp area and access road needs to be rip-rapped. The access road also needs to be raised. (N.D. State Parks is coordinating this effort.)

Minnewaukan Site - The old ramp has been pulled out. Gravel from the parking area is being salvaged. The boat ramp will be moved to an adjacent site. This work should also be completed within the next two weeks. Work at this site is a joint effort of the Minnewaukan Community Club, Benson County and the N.D. Game and Fish Department. A cleaning station is to be constructed this year, as planned.

Benson County Emergency Management

Benson County officials estimate \$1,152,000 in damage to Federal Aid System (FAS) roads.

Preliminary damage assessment to the township and NON-FAS county road systems is in excess of \$550,000.

The major problem at this time is access to private homes. At this point in the preliminary assessment, many private roads are flooding. Well contamination and septic problems have also been reported.

Nelson County Emergency Management

Plans called for road crews to begin installation on May 17 of three 36-inch culverts capable of handling 40 cubic feet per second (CFS) underneath roads in the Stump Lake vicinity.

Information received from the Nelson County Tax Equalization Director indicated an overwhelming response by farmers who are making applications for exemptions for inundated acres. The financial implications of these applications may not be known until County Commissioners review the affidavits and maps on June 1. To date, applications for 400 parcels of land, 64,000 acres, have been submitted to the Tax Equalization Director.

Nelson County residents reported that sump pumps are working overtime. Some homeowners are operating three pumps simultaneously. To date, 10 homeowners have noticed basement cracks and three have reported structural damage to their properties. Homeowners who have requested assistance with structural problems have been referred to the American Red Cross or The Salvation Army.

Lake Laretta also continues to rise, measuring 1508.7 feet in elevation. Last September, the lake measured 1507.7 feet.

Ramsey County Emergency Management

With the continuing rise of Devils Lake, rural residents have expressed concern about farmland loss

and loss of family farm buildings. Many residents have experienced water seepage problems in their basements.

Four Devils Lake area subdivisions have lost road access, recently impacting approximately 20 families.

Initial damage assessments indicate that flood waters have damaged 133 township road sites.

Up to 1,200 structures along the Devils Lake shoreline were included in a study of all structures that would be impacted if Devils Lake rises to an elevation of 1,460 feet. This effort by Federal Emergency Management Agency (FEMA) would identify: the number of properties at risk below 1,460 feet; structures that could be insured through the National Flood Insurance Program (NFIP); new or ongoing construction at 1,460 feet or below; and properties around the Stump Lake area that could be impacted by a rising Devils Lake. Field surveys were conducted on May 3-11.

City of Devils Lake

City officials have conducted a preliminary work on an emergency outlet for Devils Lake being proposed by the city leading to Stump Lake. Results of soil boring samples should be completed the week of May 16-22. Permits for construction and operation have been developed and submitted to state and federal authorities, and resolutions of support for the concept of the project have been received from county commissions and the Devils Lake Basin Joint Water Board.

U.S. Army Corps of Engineers (USACE)

Staff for the USACE reported that efforts to raise the lake level protection for the city of Churchs Ferry have been completed. The protection was raised from a level of 1,449.6 feet to 1,453 feet.

Emergency work in Belcourt has also been completed. That work included constructing a backup levee in Belcourt for an earthen levee that protects the city's medical facility and other structures. The USACE staff also provided for stabilization of the earthen dam at Belcourt Lake.

USACE staff was scheduled to meet May 17 with Bureau of Indian Affairs (BIA) representatives to discuss lake level protection measures for the Spirit Lake Tribe.

In Devils Lake, work is ongoing to raise the city's lake level protection system from a top-of-the-levee elevation of 1,452 to 1,457 feet. Work on the east end of the levee was approaching 100 percent completion while work on the west end was 60 percent completed.

Spirit Lake Nation

The Spirit Lake Tribe was not represented at the State Flood Coordination Center meeting.

General Discussion

The next State Flood Coordination Center meeting has been scheduled for Thursday, June 17, at the Ramsey County Courthouse Basement Meeting Room.

7. ASSISTANCE NEEDED: Assistance has been provided, as reported.
8. OUTSIDE HELP ON SCENE: Bureau of Indian Affairs (BIA), USACE, Red Cross, consulting engineers, State DOT staff and members of the N.D. Volunteer Organizations Active in Disaster (VOAD).
9. OTHER: Correction: The Governor did not participate in the meeting in Washington D.C. on May 14 as noted in Situation Report #13. The meeting was held to discuss a National Flood Insurance Program (NFIP) waiver for 1999. The meeting was attended by the State Engineer, the North Dakota Emergency Management Director, several Ramsey, Benson and Devils Lake officials, the N.D. Congressional delegation and the FEMA National Director and his Mitigation and NFIP directors. The USACE was not a part of this meeting.

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Division's Internet home page. The address is: <http://www.state.nd.us/dem>.

Douglas C. Friez, State Director